

REMARKS

Double Patenting

Claims 1-12 stand rejected based on nonstatutory obviousness-type double patenting over claims 1-20 of Application No. 10/996,897 and Application No. 11/023,153.

Applicants disagree with these grounds of rejection since different embodiments are present in release of a crimp to obtain an increase in fabric thickness. However to simplify prosecution, terminal disclaimers are filed concurrently opposite these two patent applications..

**Overview of Rejection Under 35 USC 103(a)
and
Commonality of
Arguments in Application Nos. 10/996,897 and 11/023,153**

In the present patent application as well as Application No. 10/996,897 and 11/023,153 a Declaration Under 37 CFR 1.132 is filed by Warren Knoff, an inventor in each of these three applications. Illustratively in each of these applications, a rejection is present under 35 USC 103(a) which include Hainsworth et al. (Hainsworth) U.S. 6,955,193, Erb, Jr. et al. (Erb, Jr.) U.S. 2002/0182967, and Matsuda et al. (Matsuda) U.S. 5,316,834. What is critical to the Office position in each of the three patent applications is reliance on Hainsworth as a first listed publication (i.e. a primary reference) with modifications by further publications (i.e. secondary references).

In this overview of rejections under 35 USC 103(a) in each of the patent applications, it is considered two possible issues are present with one of the issues having two subissues. It is considered in the meaning of 35 USC 103(a) whether one of ordinary skill in the art would modify Hainsworth, the primary publication, based on secondary publications. Both Hainsworth and the present invention increase fabric thickness upon exposure to heat or flame.

Therefore, a critical issue in the Office position is considered whether Hainsworth with the secondary publications obtain such increase in fabric thickness. The two issues are:

- (1) the combination of publications replaces the mechanism of Hainsworth with a release of crimp in the same manner as the present claimed invention or
- (2) the combination of publications employs the mechanism of Hainsworth and inherently meets the limitations of the claimed invention.

Although it is believed issue (1) does not represent the Office position, nevertheless the accompanying Declaration addresses this issue, namely a release of crimp, or rather a lack thereof.

It is believed the Office position is premised on issue 2, namely the combination of publications employs the mechanism of Hainsworth and meets the limitations of the claims.

For issue (2), two subissues are present, namely:

- (a) in the combination with Hainsworth, does a secondary publication interfere and impede the mechanism of fabric expansion of Hainsworth? or
- (b) in the combination with Hainsworth, would one of ordinary skill in the art employ the secondary publications in the meaning of 35 USC 103(a) even though the mechanism of Hainsworth is maintained?

In addressing these issues reliance is placed herein on the accompanying Declaration. Therefore, rather than repeat the Declaration word for word, only a summary and limited quotations are provided in addressing the applicability of 35 USC 103(a).

Rejections Under 35 USC 103

Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hainsworth et al (Hainsworth) (US6,955,193) in view of Erb, Jr. et al. (Erb, Jr.) (US 2002/0182967) and Matsuda et al. (Matsuda) (US 5,316,834) and Assink et al. (Assink) (US 2004/0028958).

The Declaration on page 2 notes that Hainsworth is new to a combination of publications previously applied under 35 USC 103(a) namely, Erb, Jr., Matsuda, and Assink. The previous rejection has been withdrawn following an earlier Declaration addressing the three publications, now applied as secondary publications with Hainsworth.

The Declaration on page 4 notes the Office characterization of Hainsworth in the wording:

*That I consider the Office characterization of Hainsworth in the wording:
“Hainsworth et al. disclose the claimed invention” to be incorrect because the Office wording following “but” above represents for all practical purposes the compositional and structural limitations of claim 1 of my patent application*

The Declaration on page 4 continues with the Office wording of what Hainsworth lacks vs. the wording of claim 1. The point being made is that except for (a) introductory wording of claim 1, i.e. the preamble and (b) fabric expansion, Hainsworth is deficient in all aspects regarding the requirements of claim 1.

The Declaration on page 4, 5, and 6 sets forth the mechanism of Hainsworth for fabric increase differs from the mechanism of the present invention with the wording:

That I consider that it would not be obvious to one of ordinary skill in the art nor would they be motivated to:

1. *substitute a different mechanism (crimp release) to increase the fabric thickness into the fabric of Hainsworth by replacement of the thermal differential shrinkage mechanism or*
2. *introduce an additional mechanism (crimp release) to increase the fabric thickness into the fabric of Hainsworth.*

The Declaration initially beginning on page 6 turns to a combination of the secondary publications with Hainsworth. An initial substitution is with Erb, Jr. with the Office position based on “motivated by the desire to create a fire resistant fabric that has strength yet is lightweight.”

The Declaration replies with the wording:

That I assert that the above motivation for substitution is incomplete and unclear in that it does not specify if increases or decreases, if any, in weight and/or strength are desired.

That I note that the material of Hainsworth is a woven fabric of a specific structure and that Hainsworth does not teach the use of nonwoven fabrics.

The Declaration at the bottom of page 6 and continuing to page 7 references the wording of the Office rejection in citing column 2, lines 10 to 14 and column 6, lines 17 to 20 and claim 18 and quotes the column citation with emphasis added for "higher shrinkage" and increase in "air gap" (first citation) and "with air being trapped between the layers." (second citation)

The Declaration on page 7 then addresses combining the scrim embodiment of Erb, Jr. with Hainsworth in the Office position as follows:

That I state a conventional definition for "scrim" is as follows:

"a lightweight, open-weave, coarse fabric: the best qualities are made with two-ply yarns. Cotton scrim usually comes in white, cream, or ecru and is used for window curtains and as backing for carpets" in accordance with Man-Made Fiber and Textile Dictionary. Celanese Fibers, Inc. New York, NY. 1987. pp 121.

That I submit that the commonly accepted definition of a scrim, as stated above, means the scrim has large spaces between the warp and weft yarns.

That I assert that the air permeability of a scrim, because of the openness, is necessarily very high.

That I assert that if the high shrinkage fabric of Hainsworth was replaced with a scrim as the Office position suggests, because of the high air permeability of the scrim, that air could not be trapped and the air gap of Hainsworth would no longer exist.

The Declaration on the paragraph bridging pages 7 and 8 sets forth the following conclusion:

That I assert that if one did replace the high shrinkage woven face fabric of Hainsworth with the woven scrim of Erb, Jr. et al., the resulting article would;

1. *Still be a totally woven structure.*
2. *Not increase in thickness by formation of a layer of trapped air.*
3. *Not increase in thickness under any circumstances by release of crimp.*
4. *Not necessarily have better strength weight characteristics.*

The Declaration on page 9 discusses a combination of Hainsworth, Erb, Jr., and a further secondary publication of Assink with the wording:

That I further address fiber crimp in a woven fabric of staple spun yarn (as a fabric of Hainsworth in view of Erb) held in a compressed state. Fabric woven from crimped staple spun yarns derive their strength and mechanical properties from orderly and repeating mechanical entanglements in the form of the twist in spun yarns and the interlocking lay of the yarns over and under each other. These mechanical entanglements are non-labile, and when the fabric is exposed to heat or flame, the crimp in the heat resistant fibers is not released. The fabric will not increase in thickness due to the fibers returning to their form prior to the yarn spinning and fabric weaving. Even if a thermoplastic binder in view of Assink was incorporated into the fabric, it would not increase in thickness because of the non-labile mechanical entanglements introduced during the spinning and weaving process.

The Declaration on page 10 addresses Matsuda entanglement with an initial quotation of page 6, lines 16 to 23 including emphasized wording of "When this is done, the fibers of the sheet are so entangled they are not free to move when subjected to heat and flame." The Declaration continues:

That I consider the disclosure of Matsuda to require a high degree of entanglement in the heat resistant fiber structure (column 5, lines 6-8) creates a structure in which the fibers "are so entangled they are not free to move when subjected to heat and flame."

That I further consider the additional disclosure of Matsuda to require that the structure of heat resistant fibers be formed by impregnation of the thermoplastic matrix (column 5, lines 30-32) and that the heat resistant fibers are substantially uniformly distributed in the matrix in the sheet cross section (column 5 lines 1-3) to be clear evidence that the final structure would not possess the necessary ability to increase its thickness when exposed to heat or flame.

The Declaration on page 11 provides the following conclusion:

That I further state in conclusion, for purposes of argument, the combination of the four publications of Hainsworth, Erb, Matsuda, and Assink could not and would not create a fabric which would function as required by Hainsworth with a need for an air gap nor create the nonwoven fabric of my invention which increases in thickness upon exposure to heat or flame by the release of fiber crimp

Summary

The accompanying second Declaration Under 37 CFR 1.132 by Warren F. Knoff is relied on to answer the rejection of all claims under prosecution. This Declaration also is considered to answer an initial section in this response initially entitled, "Overview of Rejection Under 35 USC 103(a)...." with the issues directed to a mechanism of fabric expansion of the present invention vs. the mechanism in Hainsworth.

Reconsideration and removal of all grounds of rejection is requested.

In view of the foregoing, allowance of the above-referenced application is respectfully requested.

Respectfully submitted,



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AGG:fgl
Enclosures